The Department of Defense Awards Program for Excellence in Performance Based Logistics
Summary of Accomplishments – Section 2

The Nomination Criteria Applicable for this Award Are: Unit Operational Readiness/Availability, Weapon System Availability, and Mission Success.

The Unmanned Aerial Vehicle Systems (UAVS) Shadow 200 Team, consisting of the UAVS Project Office and the Prime Contractor AAI, Inc., proactively pursued the implementation of Performance Based Logistics (PBL). The Team developed a strategy that allowed for controlled risk as they worked through this new way of doing business. The implementation was a phased approach that progressed from a pure cost type contract to a Cost Plus Incentive arrangement. The Program is preparing now to transition to a Fixed Price Incentive arrangement.

Early on, the team resolved to change the way of doing business and pursue PBL to its intent. They vowed to "Buy Performance" and not buy spares, repairs, and services as was done in the past. A real challenge, in that the mindset of the Team as well as the mindset of the approving parties, had to be changed. Along with changing the mindset, the team realized a Basis Of Estimate (BOE) was required but this would not be the typical BOE. The BOE would have to support the metrics and would be impacted by the level of performance required.

Four metrics were developed to define the performance based, contractor managed support efforts. These metrics were mapped to the Operational Requirements Document (ORD). These metrics are defined in detail below and are designed to apply during peacetime and during contingency deployments.

(1) The contractor will maintain a SSR of 85% defined:

$$SSR = \frac{\text{Total Time (TT)} - \text{Down Time (DT)}}{\text{Total Time (TT)}}$$

Total Time (TT) = A constant of 90 days/quarter time the number of fielded systems.

Not Mission Capable (NMC) = The subsystem requires a corrective/repair maintenance action in order to return it to a mission capable status as a result of a subsystem component failure. The definition of whether the failure resulted in the subsystem becoming not mission capable will be determined by the product support integrator and government project office until such time that Army approved NMC definitions exist.

Down Time (DT) = The number of days that a subsystem remains NMC. When the NMC time exceeds one 24 hour day, the DT clock time begins and will accumulate until the subsystem becomes Fully Mission Capable (FMC). NMC will be suspended for down time attributable to acts of God, war, PMO asset relocations, or neglect of government personnel. Down time will also exclude time the equipment is not available for maintenance such as transit time between operating locations (i.e. Ft. Lewis to Yakima) or unit down time (safety stand-downs, sergeants time, etc).

SSR will be measured quarterly and rolled up for all UAV systems currently delivered. SSR quarterly TT will be measured in days and shall be equal to a constant of 90 days per quarter multiplied times the number of systems fielded per quarter.

For purposes of SSR, a system must be designated reportable for the entire month and is considered fielded at the completion of Brigade Integration Team (BIT) training.

SSR quarterly DT will be the total number of days, for all systems fielded, that any subsystem of the UAVS, detailed below, is Not Mission Capable (NMC). To be counted as a DT day, the subsystem in question must be NMC for the entire day. The DT starts when FSR reports a subsystem is down for maintenance purposes and logs it into the system via unit or the FSR receives the unit's 2407 and equipment. The definition of non mission capable will be determined jointly by the product support integrator and the government, with final approval by the government.

(2) The contractor will fill 90% of unit requisitions per the following CWT:

Priority Designator (PD)	Continental United States (CONUS (Days)	Outside Continental United States (OCONUS) (Days)
01 thru 03	3	7
04 thru 08	7	10
09 thru 15	10	15

When Contractor managed shop stock is not available to affect repairs by either Contractor or organic personnel, NMC, for the purposes of SSR calculations, shall be calculated against the contractor. The PD is set by the unit in accordance with Department of Army (DA) supply regulations.

CWT = Total Number of Soldiers Requisitions – Late Soldiers Requisitions (LR)

Total Number of Requisitions

CWT begins on the day the requisition submitted by a soldier either through the FSR or the Standard Army Retail Supply System (SARSS) when it is implemented, as evidenced by the document number. When Government personnel, as evidenced by the carriers shipping document, receive the part, CWT calculations end.

A LR is a soldier's requisition that is not filled within the number of days delineated in the table based upon unit location (CONUS/OCONUS).

(3) The parties agree that the contractor will achieve a minimum Satisfactory (3) FSR rating:

The FSR Customer Assessment Report (FCA) will be used to determine the FSR quarterly rating. All FCA reports will be summed and a straight average will be used to determine FSR rating. Ratings on the FCA report are 5 = Outstanding, 4 = Good, 3 = Satisfactory, 2 = Below Average, 1 = Poor. The contractor shall only retain FSR Teams that maintain a performance rating of Satisfactory or better on the FCA appraisal.

(4) The contractor will maintain a LMR of 8 through 12:1 defined as:

LMR = Total Hours (TH) associated with the # of Unscheduled Maintenance Actions (UMA)

TH = Total System Flight Hours. All fielded system TH shall be summed into a quarterly total.

UMA = Maintenance actions that are required to return the system or subsystem to a mission capable state due to component failure beyond the routine preventive maintenance actions defined in the UAVS

TMs. UMAs include stand alone UMAs and, in the case of parent child MAs, only the subordinate UMAs will be counted.

The LMR will be calculated using both actual data and data obtained by analysis when recommended engineering changes have not been funded for implementation.

The scoring process to determine the incentive is as follows:

Determining Incentive Fee. The Incentive Score (IS) represents the weighted sum of the four primary metrics. These four primary metrics include System Status Readiness (SSR) (metric #1), weighted at 50%, the Customer Weight Time (CWT) (metric #2), weighted at 25%, the Field Service Representative (FSR) (metric #3), weighted at 20%, and the Logistics Maintenance Ratio (LMR) (metric #4), weighted at 5%. The equation that summarizes the total of the weighted metrics is:

Incentive Score (100%) = SSR (50%) + CWT (25%) + FSR (20%) + LMR (5%)

Each performance metric will be evaluated and scored separately. In those cases where the scoring of a specific metric is not on a 100:1 scale, a conversion formula is used as defined below.

The final wrap-up score will be compared against a scale in the fee pool below that converts the score into the contractor's quarterly performance incentive fee earned.

Metric Conversion Process:

Metric #1, the System Status Readiness (SSR) Evaluation. The system status readiness evaluation metric is calculated on a scale of 1 to 100%.

Metric #2, the Customer Wait Time (CWT) Evaluation. The customer wait time metric is calculated on a scale of 1 to 100%. If there are no soldier generated requisitions, CWST will be recorded as 100%.

Metric #3, the Field Service Representative Evaluation. The Field Service Representative metric is obtained through customer evaluations, known as FSR Customer Assessment (FCA) Reports. The customer is asked to complete a FCA report on field service support as provided under this contract. The assessment will cover multiple areas of field service. The evaluation categories will be assessed as

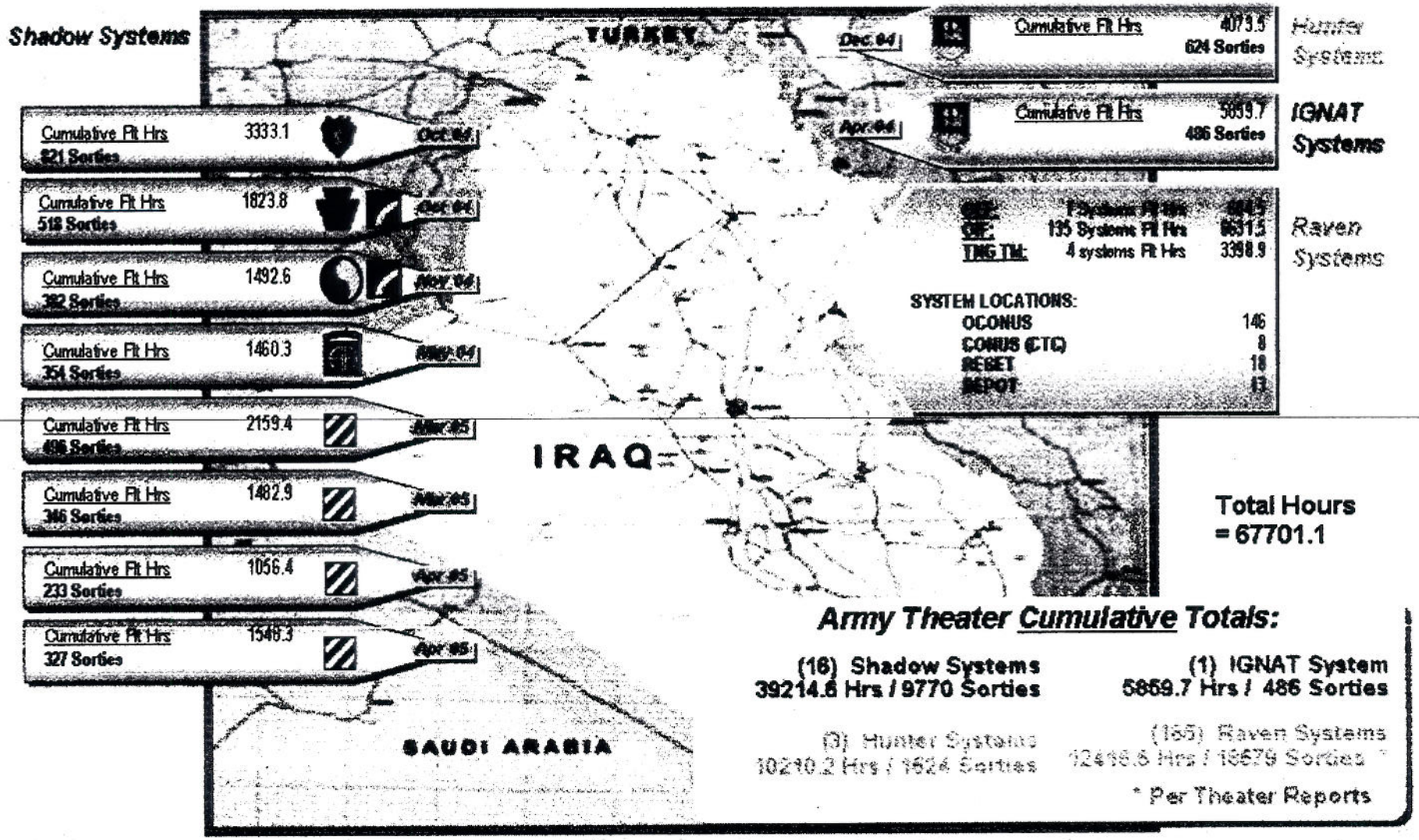
outstanding, good, satisfactory, marginal, and unsatisfactory. The evaluation scores will be summed and divided by a total number of reports received, achieving a simple average score on a scale of 1 through 5 (a score of 5 indicating outstanding performance and a score of 1 indicating unsatisfactory performance.) This average score will then be transcribed into the wrap-up score equation.

Metric #4, the Logistics Maintenance Ratio (LMR) Evaluation. The logistics maintenance ratio metric is calculated on a scale of 1 to 54. The raw 1 to 54 evaluation score was obtained from ORD requirements for threshold and objective Mean Time Between System Abort (MTBSA). The evaluation is then converted into a 100:1 scale score. The converted score is then transcribed into the wrap-up score equation.

The Team has achieved great success with a running quarterly SSR in excess of 90% and the composite grade of 90 or greater to determine the Incentive to be applied. The real success of this team is the fact this is achieved while supporting the Global War on Terrorism with an OPTEMPO that is magnitudes greater than projected peacetime rates. As of 9 August 2005, with 16 Shadow Systems a total of 9770 sorties totaling 39214.6 hours were flown.

The attached charts show the number of Sorties and Hours by Unit and deployment timeframe. Additionally, two charts show the Strategy employed by the team and the tracking of the Metrics to the Operational Requirements Document. The Strategy has been successful and by tracking to the metrics we are assuring the Warfighter requirements are met. The success in combat is the real proof.

Army UAV Operations in Operation Iraqi Freedom & Operation Enduring Freedom



Total Hours reported as of 09 August 2005

Performance Based Product Support Strategy

—"UAVS-Protecting the Point"

AN EVOLUTIONARY PROCESS

May 2003

Product Support I - Cost Plus Fixed Fee

- The Cost Plus phase's provide the opportunity to evaluate true cost and to determine the right incentives to support the Fixed Price phase.
- Provides the time to validate and verify the metrics and Data Collection processes.
- The key is the data collection and analysis.

Limited PBL
Implementation during Phase I and II

Jan 2004 PBL Extension

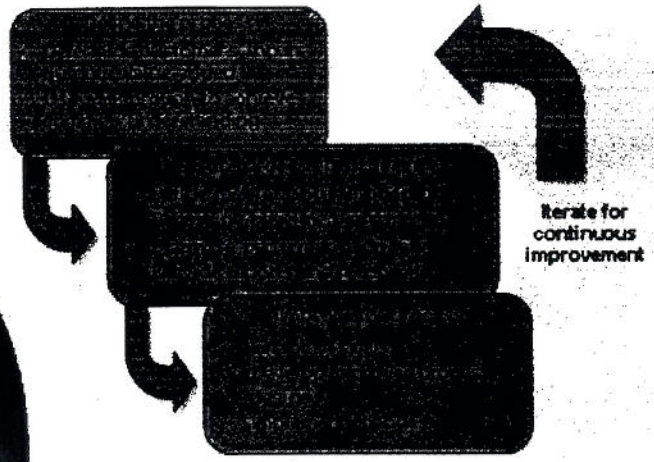
Product Support II - Cost Plus Incentive Fee

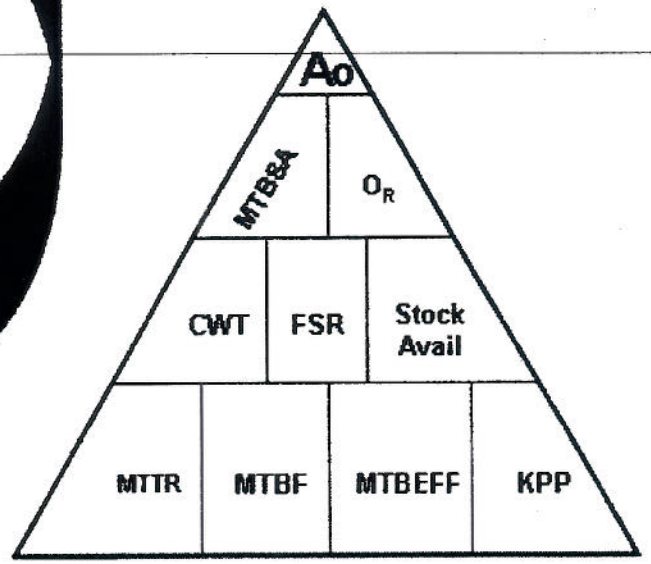
March 2005

Product Support III - Fixed Price, Performance Based, Award Term

- Better System Operational Readiness/Availability
- Increased MTBSA
- Reduced logistics footprint
- Higher overall system readiness levels

Full PBL
Implementation during Phase III





Logistics Performance Pyramid

PBL Metrics to ORD Crosswalk

—"UAVS-Protecting the Point"

Performance Based Product Support Metrics

- **SSR – System Status Readiness**

  Defined as $\frac{\text{Total Time – Down Time}}{\text{Total Time}}$

- **CWT – Customer Wait Time**

  Defined as $\frac{\text{Total Req's - \# of Unsuccessfully Filled}}{\text{Total Req's}}$

- **FSR - Field Service Representative Quotient**

  Defined as Customer Satisfaction quotients evaluated via CSAP Report

- **LMR - Logistics Maintenance Ratio**

  Defined as $\frac{\text{Total Operating Hours}}{\text{\# of Unscheduled Maintenance Actions}}$

PBL Metrics Crosswalk to ORD

- **A_o = Availability of 85%**

  SSR and CWT

- **Mean Time Between System Abort**

  20 Hrs Threshold – 57 Hrs Objective

  SSR and LMR

- **Mean Time to Repair (MTTR)**

  .5 hrs (AVUM)/ 2.0 hrs (AVIM)

  SSR, CWT, and FSR

- **Operational Readiness (non-ORD) of 85%**

  SSR, CWT, and FSR

The Department of Defense Awards program for Excellence in Performance Based Logistics Achievements – Section 4

The Shadow 200 UAV Team has accomplished great success on the implementation and execution of their Performance Based Logistics Program. The Team implemented a phased strategy that ensured the control of the risks associated with this new way of doing business. The true success of this Team was demonstrated in the significant number of successful sorties flown in support of the Global War on Terrorism. As of 5 August 2005, a total of 39214.6 hours was flown on 9770 sorties. The Shadow 200 system met all Unit Operational Readiness/Availability, Weapon System Availability, and Mission Success requirements.